The ShorePower Project

Successes to Date

The Center for Environment & Society
at Washington College

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The ShorePower Project provides municipalities analytical, technical, and funding support so that they can reduce their energy costs and carbon footprint.

The ShorePower Project has been offered to municipalities free of charge through generous grant support from the Town Creek Foundation.

Report by Grant Samms, Mary Yates, Briggs Cunningham, and Michael Hardesty

References for statistics:
1 - National Oceanic and Atmospheric Administration
2 - Maryland Department of the Environment
3 - Climate Central
4 - Maryland Commission on Climate Change

Introduction

Temperatures are rising. Seawater is flooding our land. Agriculture is being disrupted. Weather patterns are becoming increasingly erratic. Floods and heat waves are degrading our infrastructure.

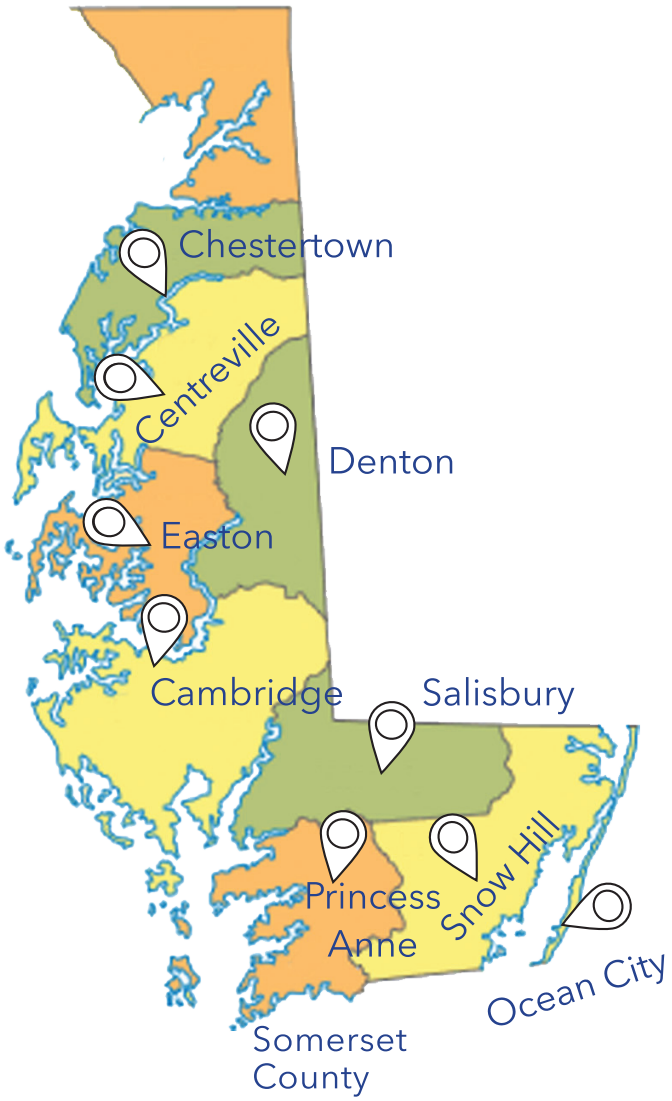
The consequences of climate change are clear.

In the Chesapeake region, we are confronted with some of the most dramatic sea level rise in the nation as the land around us is also settling. Sea level rise is predicted only to accelerate as temperatures increase, ground sinks, and a weakened Gulf Stream bare effects on the Mid-Atlantic seaboard. Nuisance flooding in Annapolis has increased 925%[1]. First responders have been hindered in rescue efforts due to flooded roads. Owners of flooded homes not only have to bear the financial cost of repair but the health cost of mold as well. Our farmers are facing increasingly unpredictable rainfall patterns. Public health threats are on the rise along with air temperatures and poor outdoor air quality.

The municipalities of the Eastern Shore have been taking steps to combat these changes. Along the way, the ShorePower Project at Washington College's Center for Environment & Society helped these pioneers to understand their energy usage, cut their costs, lower their carbon footprint, and connect to financial assistance to aid in their efforts. With ShorePower's assistance, our Eastern Shore partners are providing a model for how to lower both costs and environmental impact in Maryland's municipal sector.

With generous funding from the Town Creek Foundation, ShorePower helped these partners to understand their present and upgrade to their future. Starting in 2012 with Chestertown, and eventually working in nine towns, two school districts, and one county, the ShorePower Project has helped all of our partners become more environmentally and fiscally sustainable.

OUR PARTNERS



The municipalities of the Eastern Shore have been taking steps to combat climate change

The ShorePower Process

The ShorePower Project worked with each of our partners to gather three years of utility bills. We then created a baseline that showed where electricity was consumed, how much it cost our partners, and how much carbon was emitted.

After creating this baseline, the ShorePower Project gave each partner a tailored report showing their trends in energy use and their impact on the climate. We then met with city planners, engineers, and council members to identify steps that could reduce consumption and cost. ShorePower also helped our partners find unique financing options for projects that lowered municipal costs with little overhead. These frequently took advantage of state funding made available through Maryland's Greenhouse Gas Reduction Act. In short, we helped our partners to analyze, cooperate, finance, and upgrade.

ANALYZE → COOPERATE → FINANCE → UPGRADE

Many of our partners also became Sustainable Maryland Certified communities; further improving their air, water, infrastructure, and public spaces. This certification proves that they offer a superior environment for the residents of their community. ShorePower's baselines were key for many partners to obtain Sustainable Maryland Certification.

With projects like converting streetlights to LEDs, installing solar panels to offset the energy use of wastewater treatment, upgrading motor fleets with more efficient vehicles, and installing more efficient HVAC systems, our partners are demonstrating how to build a more efficient - and resilient - nation.

Our partners are demonstrating how to build a more efficient and resilient nation

Maryland's Climate Need

30%

of land on the Eastern Shore is designated as a Flood Zone Area and is susceptible to sea level rise[2]

$7.5 Billion

Value of Maryland property put at risk from flooding through 2050[3]

1 in 9

Number of Maryland children diagnosed with asthma due to poor air quality[4]

ShorePower partners are fighting this change

20%

Reduction in CO_2 emitted by street lights when Easton replaced 420 street lights with LEDs

8

The number of partners that have committed to solar power

75%

of Centreville's municipal energy use is now carbon free

Our Partner's Savings

$130,000
Year-one savings for the town of Chestertown

$16,000
Annual savings for the town of Centreville by generating its own power

$500,000
Potential savings if all partners powered their waste water treatment plants with solar energy

2/5 People on the Eastern Shore have been affected by ShorePower's efforts thus far

$11.6M Could be potentially saved by replicating Chestertown's success across the Eastern Shore

$17,000
Projected annual savings for Easton after upgrading all streetlights to LED

9 TOWN PARTNERS
2 SCHOOL DISTRICTS
1 COUNTY PARTNER

Easton Sheds New Light on Energy Efficiency

Easton's new streetlights were the talk of the town. "When people can literally see the difference, it truly helps everyone understand and appreciate the impact we are all making," said Hugh E. Grunden, President and CEO of Easton Utilities. Easton undertook this effort based on data provided by the ShorePower Project. To date, the town has replaced almost a third of its 1,500 streetlights with new, powerful, cost-saving LED's. "We used ShorePower's technical and analytical abilities to reduce costs for the town," added Grunden.

What's more, the lights were purchased using money the town received through grants while Easton Utilities donated the time and resources to install them. "We relied on ShorePower to provide accurate numbers so we could define the need and apply for available grants," said Grunden. By gathering and evaluating the data, ShorePower was able to connect the town to the resources they needed to reduce Easton's energy costs and carbon footprint.

The LED street light replacement program was just one component Easton used to become Sustainable Maryland Certified. The town has continued to invest in its state-of-the-art wastewater treatment facility and installed a Landfill Gas to Electric Generator. These steps and more have helped Easton address climate change and its own environmental impact. "The Town of Easton is committed to making responsible decisions which demonstrate resource conservation, help save taxpayers money, and protect our environment," Grunden stated, "and ShorePower helped us achieve just that."

Left: Easton uses this 1MW generator and methane from its landfill to provide all the electricity needed for landfill operations.

Below: Crews work to install an LED streetlight.

"We relied on ShorePower to provide accurate numbers so we could define the need and apply for available grants."

Cambridge Slashes Expenses and Emissions

"We won't do something just to do it; we will do it in a green fashion." Brent Jett and the City of Cambridge saw a green future and analytical assistance from the ShorePower Project helped them achieve it. As Cambridge replaced outdated halogen lights and installed municipal solar panels, they relied on the ShorePower Project to help target its efforts and get a better picture of where energy was being used.

The City of Cambridge also relied on the analytical capacity of the ShorePower Project to apply for programs and certifications. "A lot of the baselines that ShorePower created helped us get Sustainable Maryland Certified," Jett said. In total, Cambridge partnered with the Maryland Smart Energy Communities program, the Maryland Energy Administration, Sustainable Maryland Certified, and Delmarva Power, the local utility, to bring about the first steps in the city's green reemergence.

"Money is always an issue," Jett continued to explain, but he is confident that through partnerships like the one with the ShorePower Project, both municipal operating costs and environmental impacts can be reduced. In one case, a municipal building in Cambridge cost the city $100,000 dollars each year in electricity. But through cost cutting and climate change fighting measures like solar panels and LED lights, "we are hoping to bring that building down to $60,000 a year."

Right: Cambridge has invested much in its new Green Main Street, including this permeable sidewalk.

Below: Cambridge celebrates the holidays with wreaths and LED streetlights.

"The baselines that ShorePower created helped us get Sustainable Maryland Certified."

Ocean City Fights for Sustainability

Ocean City is a town in transformation. Seated on a low-lying barrier island on Maryland's Atlantic coast, it has a lot of skin in the climate change game. So it shouldn't surprise onlookers when the people who grapple with the town's pressing climate challenges set their sights on sustainability. Nor should it be surprising that they turned to the ShorePower Project for technical support.

"We have a great carbon baseline for the Town," said Gail Blazer, Environmental Engineer for the Town of Ocean City, in regard to the partnership with the ShorePower Project. "We received a lot of acknowledgment of the effort. It was highlighted in the local newspapers." Aided by ShorePower's data analysis, the Town of Ocean City received a grant from the Maryland Energy Administration to finance the LED lighting in the new Fire Headquarters. Further, the Town gets a portion of its electricity from sustainable energy through a negotiated Power Purchase Agreement. Ocean City had also been Sustainable Maryland Certified.

This momentous success hasn't doused the desire to do more, however. Blazer leads a Green Team that meets every two months. This team continues to look for opportunities to improve the sustainability and efficiency of Ocean City. The ShorePower Project, Blazer, and the Green Team are looking forward to building on the work that has been done in this progressive town. "There is still a lot of outreach to do," said Blazer of her efforts to form green habits among city residents. With plans for ongoing energy usage analysis and further carbon reductions, Ocean City is a leader in the fight against climate change on the Eastern Shore.

"We have a great carbon baseline for the Town."

Our Other Partners' Successes

All of our municipal partners have stood out in their commitment to lowering their energy usage, limiting their carbon emissions, increasing sustainability, and saving money for their residents.

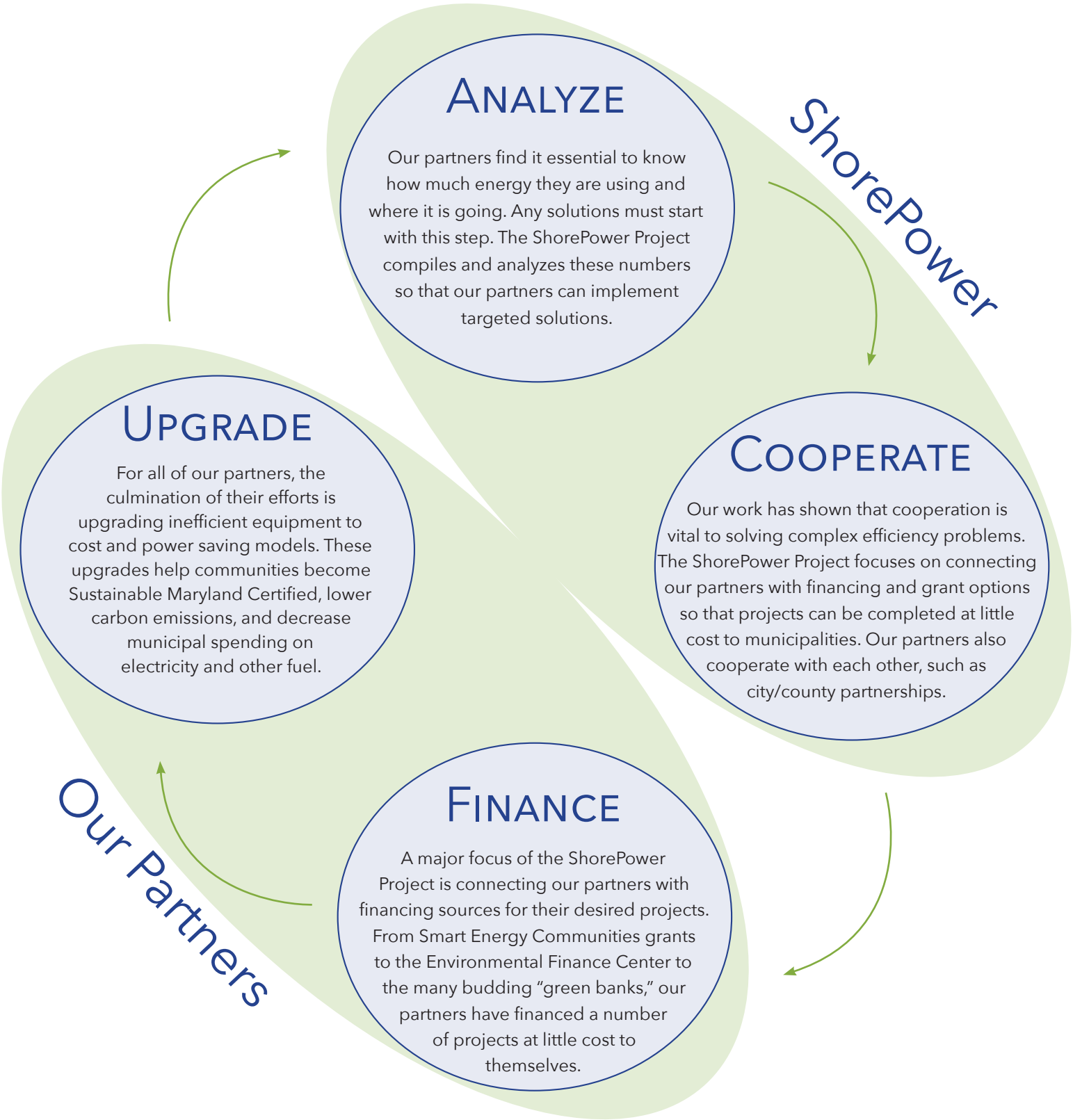
The small but innovative town of Snow Hill installed LED lights in its municipal buildings, upgraded to more efficient HVAC units, and replaced inefficient vehicles. This work was funded through a Smart Energy Communities grant from the Maryland Energy Administration. The town also became Sustainable Maryland Certified.

The town of Centreville partnered with Queen Anne's County to install a 3.3 MW solar array that helps to power the town's wastewater treatment plant. With help from the ShorePower Project, Centreville realized that the largest piece of its energy usage was the treatment of its wastewater. By targeting its most power intensive operation, Centreville's new array helps to offset emissions and save money.

The town of Denton took advantage of Maryland's Smart Energy Communities program and installed solar arrays while lowering its energy demand with LED lights. Denton further improved its sustainability to become Sustainable Maryland Certified.

Princess Anne and Somerset County worked in tandem to upgrade HVAC systems and lights across their jurisdictions. This coordinated approach helped to save money and reduce the carbon footprint of both parties.

Recommended Process



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